

**Notice of Allowability**

Application No.

09/826,355

Examiner

Thomas E. Shortledge

Applicant(s)

LIN ET AL.

Art Unit

2626

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 07/05/2006, 08/05/2006.
2. ☒ The allowed claim(s) is/are 1-19.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

**DETAILED ACTION**

1. This communication is in response to Remarks/Arguments, filed 07/05/2006 and the Remarks/Arguments, filed 08/05/2006.
2. Claims 1-19 are pending. Claim 1 is independent.

***Response to Arguments***

3. Applicant's arguments, Remarks/Arguments, filed 07/05/2006, with respect to claims 1-19 have been fully considered and are persuasive. The 102(b) rejections of claims 1-6 and 14-16, and the 103(a) rejections of claims 7 and 9-13 have been withdrawn.

***Allowable Subject Matter***

4. Claims 1-19 are allowed.
5. The following is an examiner's statement of reasons for allowance:

Claim 1 recites a method of building a database from text, the method comprising the steps of parsing text to identify paths formed by concatenated relationships between words in the text; and generating a database of inference rules comprising pairs of semantically equivalent

paths by associating, in a computer, paths with each other based on a similarity measure between the paths.

Richardson et al. (MindNet: Acquiring and structuring semantic information from text), the closest prior art of record, teach a system for extracting semantic information dealing with relations between words. The relations are used to create paths that connect words within the created rules from a body of text.

The applicant argues that Richardson et al. rules comprising pairs of does not teach: "generating a database of inference semantically equivalent paths by associating, in a other based on a similarity measure between the computer, paths with each Paths". The applicant further argues that Table 3 in MindNet merely lists a series of paths connecting pairs of words and that the focus is on how the words are linked. Thus, MindNet has a number of fixed ways to link words. One link is "Means"; another is "Hypernym". Each word pair linked by one of the fixed links forms a semrel path and a similarity measure between the words at the end of a semrel path is computed. Paths that tend to link the known synonyms in a thesaurus get high weights and paths that tend to link dissimilarity words in the anti-thesaurus get low weights. The path weights are used to compute word similarity. What MindNet cares about is how closely two words are related, so as to decide where in the lexicon they should be placed and what they are related to. Thus, MindNet provides a measure of similarity between two words e.g. pen and pencil, or between car and truck. By comparison, the present invention computes the similarity between paths, not between words. This is illustrated by Table 2 (specification, page 2). In Table 2, two paths are shown. One path is "X finds a solution for Y" and another is "X solves Y". As

can be seen, the words that can fill in the slots X and Y can be quite different in meaning. In fact, the words filling the slots in two paths can be completely unrelated in meaning as Table 2 shows (e.g. sheriff and committee). This illustrates that what the instant invention cares about is the similarity between paths, not between words. Thus, in the instant invention, a similarity measure is computed to relate the two paths, as for example how similar "X finds a solution for Y" is to "X solves Y" (where X and Y could be any value). It can be seen that the link between X and Y could be any semantic relation, and is not fixed like in MindNet. In fact, the instant invention has to do with discovering the semantic relationships between paths. MindNet, by contrast, has a fixed number of semantic relationships (defined in Table 1 of the MindNet reference).

The examiner agrees with the applicants' arguments that that Richardson et al. rules comprising pairs of does not teach: "generating a database of inference semantically equivalent paths by associating, in a other based on a similarity measure between the computer, paths with each Paths".

Claims 2-19 are also allowed since they depend from claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas E. Shortledge whose telephone number is (571)272-7612. The examiner can normally be reached on M-F 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571)272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TS  
8/14/06

  
RICHEMOND DORVIL  
SUPERVISORY PATENT EXAMINER